ERM-DL installation guide

Product Overview

Echoflex's ERM load controller provides a low cost method of wirelessly gaining control over fixtures or appliances. As a wireless solution, the ERM receives telegrams from Echoflex battery-free wireless switches or sensors and triggers an internal relay automating the activation of the electrical load. Assigning the switches and sensors to the ERM is easy and eliminates the cost of wire and installation of a switch leg.

The ERM should only be installed at indoor locations. It must be mounted in either a wall or ceiling mount electrical junction box with the provided hardware; behind a duplex receptacle, switch or fixture.

The ERM includes Smart Click and Simple Tap software that allows users to commission and adjust controller settings easily in the future using just the switch or sensors as commissioning tools.

This guide covers high voltage model numbers ERM-DLC, ERM-DL, ERM-DLC-277, ERM-DL-277, and low voltage models ERM-DLC-LV, ERM-DL-LV. The model number with "C" is equipped with a EnOcean 315 MHz Dolphin radio and the other equipped with an EnOcean 868MHz Dolphin radio. Refer to the electrical specifications for the differences between the high voltage and low voltage models.

Included in the package

The package includes the ERM controller and installation guide.

ERM Operation

The ERM is a controller that can activate lighting or miscellaneous electrical loads (MEL) when a received input from a linked sensor or switch is changed.

As a lighting controller, the ERM can operate lights based on:

- ambient light levels monitored by an Echoflex light sensor
- occupancy state monitored by Echoflex motion sensors
- switch action from an Echoflex wall switch

As a miscellaneous electrical load controller, the ERM will respond to key card switches, wall switches and door switches.

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Part # 8DC-5199 | Revision 1.7

Remote Devices supported by the ERM

Device	Model	Applications
Wall switch	PTM265	Lighting, Timed Switch or MEL control
Dual Switch	PTM265D	Lighting, Timed Switch or MEL control
Keycard Switch	PTM265KC	Hospitality Room Occupancy
Light Sensor	TAP-17	Daylight Harvesting Lighting
Motion Sensor	MOS-17	Auto off and/or Auto on Lighting, Dormitory and Hospitality Room Occupancy
Entry Door	MC-17	Trigger for Dormitory and Hospitality Room Occupancy
Door/Window Switch	MC-17	Storage Room Lighting, Patio Door

ERM and Wall Switches

The ERM works with the wireless PTM single and dual rocker wall switches. A switch ON action activates the relay closed (light's on) and the OFF action opens the relay (light's off).

When linking a wall switch to the ERM controller, activate the switch three times ON in succession with the controller in LEARN mode.

ERM and Timed Switches

The ERM can be configured so the single and dual rocker PTM switches become timed switches. An ON action closes the relay (light's on) and a timer is set to count down. Once the timer expires, the relay opens (light's off).

The time period is configurable and has 5 settings:

no timer (default), 5 minutes, 15 minutes, 30 minutes and 1 hour. Additionally, if the user presses the wall switch ON multiple times (to a total of 5 presses), the timer interval is added for each ON press. If ON is pressed while the light's are on and the timer is counting down, an additional period of time is added to the timer total.

For example: if the timer setting is 1 hour and the user pressed the switch ON twice, the total timer period is 2 hours. If there is 30 minutes left on the timer and ON is pressed again, the timer is extended to 1 hour 30 minutes before the light's will turn off.

The ERM will toggle the relay (flick-warn) 1 minute before the timer is due to expire to warn users of the pending OFF event.

To configure, the time period, refer to the section on"**Configuring the ERM**".

ERM and key card switch

The key card switch is common in hospitality applications for indicating when the room is occupied by a guest. The key card used to unlock the door is inserted into the switch, the ERM will enable lighting or other electrical appliance circuits. When the guest leaves and the card is removed from the switch, an egress timer will expire and the ERM relay will open de-activating the circuits.

The egress timer default is a 0 second timer but this can be configured to 1 minute intervals up to 5 minutes. Please refer to section "**Configuring the ERM**" to edit this setting.

When used for this hospitality application, it is not advised having other devices linked permanently (other than a wall switch) to the ERM controller as this may result in unintended results. When multiple key cards are used with one ERM controller and any switch is active with a card inserted then the ERM relay will remain closed (light's on). All linked switches must be inactive before the ERM opens the relay (light's off).

When linking a keycard to the ERM controller, activate the switch three times in succession with the controller in LEARN mode.

ERM and Daylight Harvesting Applications

The ERM controller will turn the lights on or off based on the ambient light level in the room. An Echoflex light sensor monitors light levels and must be linked to the ERM controller to provide the light level in the room. The Light-ON-Setpoint is the light level at which the light will turn on; the Light-OFF-Setpoint is the light level at which the light will turn off. Setting these setpoints is covered later in this document under "**Configuring the ERM**".

The daylight harvesting application will operate with just the light sensor or with the addition of a wall switch or motion sensor. The day-lighting application will override the Auto-ON feature of occupancy sensors turning the light off if the light level is above the Light-OFF-Setpoint.

For example: If the daylight application calls for the light to be off, the motion sensor will not turn the lights back on.

The day-lighting application can be overridden by a manual wall switch when the light is off by clicking on. If the light level remains above the Light-OFF-Setpoint, the controller will turn the light off again after 250 seconds.

The day-lighting application does not affect the operation of the wall switch or motion sensor when the light is on. If the light is on, either the switch or motion sensor can override the light off.

ERM and Occupancy Based Applications

The ERM will turn the lights OFF when there is no motion detected in the room indicated by a linked Echoflex MOS-17 motion sensor. The ERM can be configured to turn the lights ON immediately (Auto-ON) if the motion sensor detects motion, see the section titled "**Configuring the ERM**".

There is a configurable time period (occupancy timer) between the last detected motion and the point where the lights turn off. There are 6 settings for this time out period. The occupancy timer is 15 minutes by default but can be set to a value of 5 to 25 minutes in 5 minute increments, see the configuration section. The timer will reset if the sensor detects motion. If the timer expires, the light will turn off.

Multiple motion sensors can be ganged together so if only one sensor detects motion or the occupancy timer has not expired, the light will remain on.

The motion sensor application will work well by itself or with linked wall switches and light sensors. If the motion sensor is linked to an ERM controller with no linked wall switch, then Auto-On is enabled by default.

Turning the lights on with a linked wall switch will reset the occupancy timer. Turning the light off with the wall switch will override Auto-ON (if enabled) for the duration of the occupancy timer period. Any motion detected by the sensor during this period will reset the timer. Once the occupancy timer has expired, the override will be released. If the wall switch is used to turn the light on during the timer period, the override will also be released.

ERM with the MC-17 as an entry door occupancy trigger

The MC-17 switch can be used on an entry door to trigger a door open-close event. Used together with the Echoflex MOS-17 motion sensor, the door event triggers a latch of the room occupancy. The ERM will latch the room occupancy state with receipt of two motion sensor telegrams (4 to 5 minutes after the entry door open/close event). After the room has been latched as occupied, only another door event can clear the latched state. If the room is latched vacant and an occupied telegram is received from the sensor, the room state will latch occupied. This is an alternate solution to the keycard application for dormitory or hospitality projects for defining occupancy state.

NOTE: To learn the door switch as an entry door occupancy trigger, link the switch to the controller with the magnet in place next to the sensor.

ERM with the MC-17 as a door switch

The MC-17 is a position switch and when linked with the ERM controller, can open or close the relay. The relay will close when the switch is open, opening the relay when the switch is closed after a timer expires.

NOTE: Using the door switch in this application, link the switch to the controller with the magnet apart from the switch.

This is useful for closet or storage room applications. The timer, relay logic and switch logic are all configurable using remote management applications. Refer to the configuration section to edit the timer setting.

Radio Range Planning

The ERM controller is intended to be used with switches, sensors and actuators enabled with EnOcean PTM or STM transmitters. Locating the wireless transmitters to work with the installed ERM controller requires planning. Careful consideration should be made for locating the controllers based on the construction materials in the space and possibility of tenant's furniture disrupting the transmissions. Fire doors, elevator shafts, stairwells, storage areas and any large metal products create radio shadows and will disrupt wireless transmissions.

On floor-plan drawings, draw 100 feet (30m) diameter circles to identify optimal transmitter and controller locations. Refer to the table for range considerations with other building materials.

Material	Attenuation
Wood	0 - 10%
Plaster	0 - 10%
Glass	0 - 10%
Brick	5 - 35%
MDF	5 - 35%
Ferroconcrete	10 - 90%
Metal	90 - 100%
Aluminum	90 - 100%

Material	Range-typical
Line of site:	100’ (30m) corridors
Line of site:	330’ (100m)open halls
Plasterboard:	100’ (30m) through 5 walls
Brick:	65’ (20m) through 3 walls
Concrete:	65’ (20m) through 3 walls
FerroConcrete:	33’ (10m)
Ceiling:	1 ceiling

For more information about range planning, please refer to the range planning guide downloaded from www.echoflexsolutions.com

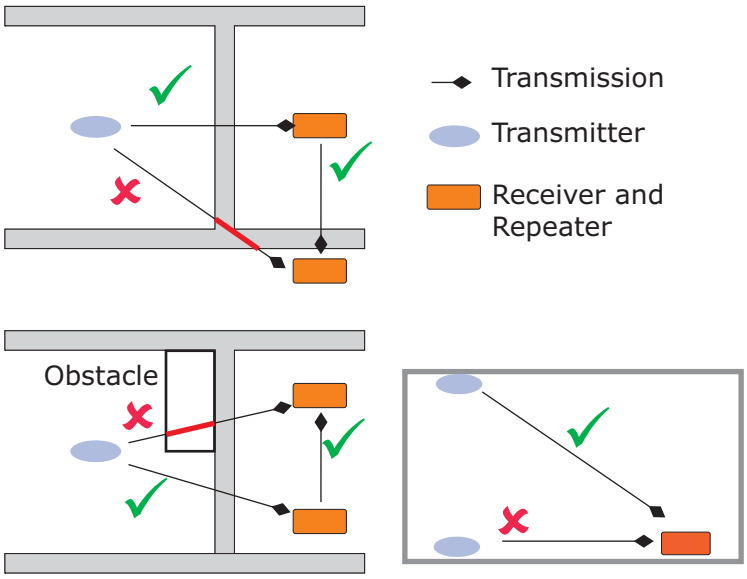
Layout Hints

⇨ Avoid transmitting down a length of wall to reduce signal reflection.

⇨ Avoid transmissions that must penetrate walls at acute angles. This increases the wall material the telegram must pass through, greatly reducing the signal power.

⇨ Avoid large obstructions. Place receivers in alternate locations to avoid the radio shadow or use repeaters to go around the obstacle.

⇨ Do not locate receivers close to other high frequency transmitters. Leave at least 2’ between the receiver and any other source of interference including, computers, video equipment, Wi-Fi/LAN routers, GSM modems and monitors. Transmitters are not affected by these sources of interference.



Preparing to Install

To install the ERM controller, you will need access to an electrical junction box either directly at the electrical load or before the load in the circuit.

You will require hand tools to gain access to the junction box and remove any cover plates or other hardware. A pin or pen is needed for pressing the controller buttons when assigning the wireless switches or sensors.

Important Safety Instructions

WARNING:

ELECTRICAL SHOCK HAZARD

SOME MODELS OF THE ERM USE HIGH VOLTAGE AND SHOULD ONLY BE INSTALLED BY A QUALIFIED INSTALLER OR ELECTRICIAN. FOLLOW ALL APPLICABLE ELECTRICAL CODES IN THE COUNTRY OF INSTALLATION.

Installing the ERM

Review these instructions completely before installing the ERM controller. For best results, the ERM controller should be installed into a non-metal electrical junction box.

NOTE: The ERM should only be installed in an indoor location. All high voltage models of the controller must be mounted in an electrical junction box, either wall or ceiling mount, behind a duplex receptacle, switch or fixture.

1) Locate the circuit breaker panel and turn off the power to the circuit

2) Remove all face plates, duplex receptacle or switch hardware from the junction box

3) Refer to the wiring diagram to connect the controller to the line power, neutral and load wires. Use wire nuts on all connections and cap any bare wires except the antenna wire. The orange antenna wire should be placed so it is near the front of the box. Use tape to hold the antenna in place if needed.

4) Push the controller into the junction box together with all the wires insuring that the antenna is not pushed to the back.

5) Replace the duplex receptacle and/or switch and faceplate .

6) Restore power to the circuit

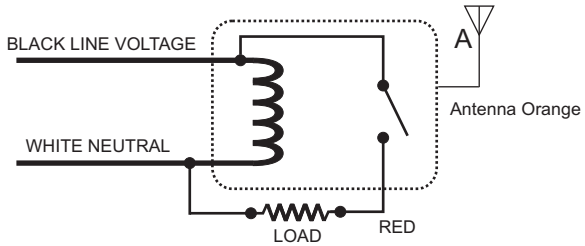
In installations where the electrical box is metal, route the antenna towards the front and outside the box. Avoid running the antenna along any grounded metal plating.

Wiring Instructions

Power to the line voltage models is connected between the White (Neutral) and the Black (120 - 277 VAC) wires. The load wire is red and connects to the switched hot side of the load. The load neutral can be connected to the white neutral wire.

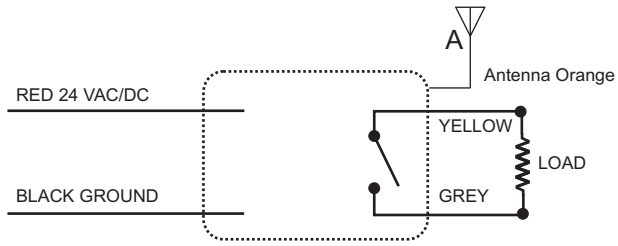
The low voltage 24V models have a red (24+) and black (ground) wires for power input. The low voltage models have a 3A dry contact output between the grey and yellow wires

Use only approved wire. Cap off all unused wires. Do not cut or cap the orange (315M radio) or blue (868M radio) antenna wire.



High Voltage Model

Connection	Color	Min.Size
ERM-DL-277 and ERM-DLC-277 volt models		
120-277VAC	Black	300V, 18AWG
ERM-DL and ERM-DLC volt models		
90-240VAC	Black	300V, 18AWG
All High Voltage Models		
Neutral	White	300V, 14AWG
Load	Red	300V, 14AWG
Load Neutral	White	300V, 14AWG
Antenna	Orange	no connection



Low Voltage Model

Connection	Color	Min.Size
Ground	Black	22AWG
24VAC/DC	White	22AWG
Relay Output	Yellow	22AWG
Relay Output	Grey	22AWG

Using the controller with a wired wall switch:

If the circuit will have an additional manual switch, wire the ERM and in series before the manual switch.

Using the controller with a duplex receptacle (appliances):

The duplex receptacle would be wired in as the load. For applications where one side of the receptacle will not be switched by the ERM, disconnect the receptacle at the terminals and wire the un-switched side to line power

Using the ERM with a light fixture:

The lighting load is connected to the ERM controller as the load.

Supported EnOcean Equipment Profiles

EEP: F6-02-02 Light & Blinds - US/Canada

EEP: F6-04-01 Key Card Activated Switch

EEP: A5-06-xx Light Sensor [0 - 1024 lux]

EEP: A5-07-01 Occupancy Sensor

EEP: A5-30-02 Window Contact

EEP: A5-10-0A/0B Room Operating Panel

EEP: A5-38-08 Central Command, switching(0x01)

EEP:D5-00-01, 1BS Contact and Switches

Electrical Specifications

ERM-DL-277 and ERM-DLC-277 volt models

Power Supply: 120-277 VAC, 50/60Hz

ERM-DL and ERM-DLC volt models

Power Supply: 90-240 VAC, 50/60Hz

All High Voltage Models

Power Consumption: max. 2.5 W full load

Outputs - high voltage models:

[1] N.O. Relay rating 15A @ 90 - 277 VAC

[2] LEDs - mode and learn

Maximum Load Ratings:

	ERM-DL(C)	ERM-DL(C)-277
Incandescent/Tungsten:	1300W@90V	1800W@120V
	3600W@240V	4000W@277V
General Purpose	15A@90-240V	15A@120 - 277VAC
Fluorescent Ballast	15A@90-240V	15A@120 - 277VAC

Low Voltage Models

Power Supply: 24VAC/DC

Power Consumption: 1.0 W full load

Outputs

[1] N.O. Relay rating 3A@30 VDC

[2] LEDs - clear and learn

All Models

Inputs: LEARN and CLEAR buttons

Communications:

315MHz EnOcean radio, 150mm antenna

868MHz EnOcean radio, 86mm antenna

approx. 10mm of antenna is inside the housing

NOTE: The radio is protected by a sealed screw. Breaking this seal will void the warranty.

Part # 8DC-5199 | Revision 1.7

Mechanical /Environmental Specifications

Operating Temperature for models ERM-DLC & ERM-DL at 220V:

14°F to 104°F (-10°C to 40°C ambient)

Operating Temperature for models ERM-DLC-277 & ERM-DL-277 at 277V:

14°F to 104°F (-10°C to 45°C)

Relative Humidity: 5% - 95% RH (non-condensing)

Weight: 2.2 ounces (60 gms.)

Dimensions: 2.2" x 1.5" x 1.0"
(56 mm x38 mm x26 mm)

Diagnostic LED's and buttons

The leds and LEARN and CLEAR buttons are only accessible at the controller. Accessing the controller directly when it is powered inside an electrical junction box is not advised. Use Smart Click to add additional switches or sensors or to clear the controller.

LEARN button – The LEARN button can be used to link a switch or sensor to the ERM controller.

1. Insert a small pin or pen into the LEARN hole depressing the button for a half second. In learn mode the LEARN led will stay ON and the POWER led will toggle every second.

2. Using the switch or sensor that you want to link to the controller, press the wall switch ON 3 times or press the sensor's TEACH button. The POWER led will remain lit for 4 seconds while it links the new device. It will resume toggling allowing you to LEARN another device up to a total of 20 devices. Activating LEARN mode from a switch or sensor that is already learned to a controller, will remove or un-link it from the controller.

3. To exit learn mode, depress the LEARN button on the ERM controller again for a half second. Learn mode will also time out after no activity in 30 seconds.

CLEAR button – The CLEAR button erases all switches and sensors learned to the ERM controller and resets the controller to factory default settings.

Insert a small pin or pen into the CLEAR hole depressing the button for 5 seconds. The LEARN led will flash ON for 1 second and then OFF to complete the step. The table below describes the LED activity and associated mode of the controller.

LED Blink Patterns

Description	Power	LEARN
Learn mode	Toggle 2 sec.	ON
Storing ID	ON 4 sec.	ON
CLEAR mode	ON	blinks once

Normal operation - number of long blinks indicates the linked device type followed by short blinks counting the number of devices linked.

Default	No blinks
Wall Switch	1 Blink
Motion Sensor	2 Blinks
Light Sensor	3 Blinks
Keycard Switch	4 Blinks
Entry Door Trigger	5 Blinks
Door Switch	6 Blinks
Central Command	7 Blinks

Configuring the ERM

There are two methods of configuring parameters in the ERM controller. Simple TAP is a quick method of changing a parameters setting, one at a time. For accessing the complete set of configuration parameters, use the Smart Click process.

Simple TAP Instructions for ERM

Simple TAP uses the switches and sensors that are linked to the ERM controller to set the associated configuration parameters. You must be able to access the sensors teach button or the switches to perform the simple tap process

Simple TAP allows you to:

- Enable or disable the motion sensor Auto-ON feature
- Set the motion sensor Auto-OFF occupancy timer
- Set the Light-OFF-Setpoint
- Set the door switch egress timer

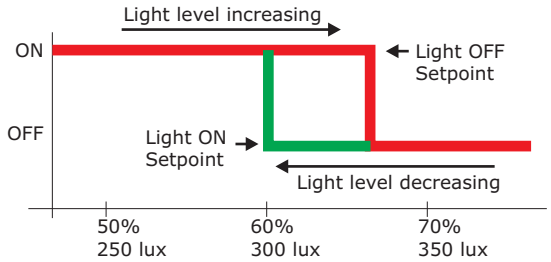
Disable/Enable the Auto-ON feature - With the light on, tap the occupancy sensor's teach button followed by three quick consecutive clicks of a linked wall switch ON. To enable Auto-ON, click once more ON (total 4 times), to disable click OFF. The light will blink once to confirm the change.

Set the Motion Sensor Auto-OFF timer - With the light on, tap the occupancy sensor's teach button to reset the timer period. There are 6 possible settings and the number of taps on the teach button counts the number according to the time period, see the Timeout section under Smart Click. Level 1 (time out 1min.) is set by tapping 3 times, consecutive taps up to a maximum of 8 taps is Level 6 (time out 25 minutes). The light will blink once after the third tap and will continue to blink counting out the level selected.

Button Taps	Time Out	Level
3	1 min.	1 blink
4	5 min.	2 blinks
5	10 min.	3 blinks
6	15 min.	4 blinks
7	20 min.	5 blinks
8	25 min.	6 blinks

Configuring the Lighting Set-points: The controller will turn the light on or off based on the measured light level from the light sensor. The set-point values are a percentage of the full range of the sensor. A 500 lux light sensor has a range of 0 lux to 500 lux. The lux value of a set-point equals the percentage of 500 lux.

*Example: If the Light-ON-Setpoint is 60% then the lux value when the light turns on is 300 lux (28 FC)measured at the sensor. The Light-OFF-Setpoint is 15% greater than this value [115%*60=69%] or 345 lux (32 FC).*



Setting the Daylight Harvesting Set-point - You can set a current light level as the daylight harvesting set-point, the controller will try to maintain this light level by turning the light on or off.

With the light on, tap the light sensors teach button 3 times to set the daylight harvesting set-point to the current existing light level recorded at the sensor. The light will blink once to acknowledge the change. You must move away from the sensor to avoid affecting the light level. The next transmitted light value from the sensor will become the new daylight harvesting set-point, the light will blink once again to complete the process. The Light-ON-Setpoint will become 92.5% of

the daylight harvesting set-point and the Light-OFF-Setpoint will become 107.5% of the daylight harvesting set-point.

Example: If the ambient light in the room is at the desired level and the light sensor reading is 265 lux (25 FC). The Light-OFF-Setpoint will become 285 lux (26.5 FC) and the Light-ON-Setpoint becomes 245 lux (22.5 FC).

Setting the Light ON Set-point to an Absolute Value With the light on, tap the light sensors teach button 4 times to set the Light-ON-Setpoint to 20%. Tap the button additional presses incrementing the set-point value in 20% values. Five (5) taps would equal 40%, seven (7) would be 80. The light will blink once at three taps and then continue blinking to confirm the change according to the table below. The Light-OFF-Setpoint will become 115% of the Light-ON-Setpoint below.

Button Taps	Light-ON SP	Level
3	1.075 x current value	1 blink
4	20% of max value	2 blinks
5	40% of max value	3 blinks
6	60% of max value	4 blinks
7	80% of max value	5 blinks

Set the door switch timer: If a door/window switch is linked to the ERM with the magnet apart from the switch, then the relay will close whenever the switch is open and will open after a timer expires. This switch function is intended to operate a light for door applications; storerooms, closets, etc. The time period when the relay remains closed is configurable.

Accessing the teach button on the face of the switch allows you to quickly change the time period. With the light on, tap the switches teach button according to the table below. The relay (light) will cycle counting the level selected.

Button Taps	Time period	Level
3	0 seconds	1 blink
4	1 minute	2 blinks
5	2 minutes	3 blinks
6	3 minutes	4 blinks
7	4 minutes	5 blinks
8	5 minutes	6 blinks

Default Settings for ERM

Repeater	disabled
Status message	disabled
Time-Out (timed switch)	0 seconds
Time-Out(motion)	15 minutes
Time-Out (door switch)	0 seconds
Keycard Switch (egress timer)	0 seconds
Auto-ON	enabled with motion sensor only, disabled when a wall switch is linked.
Light-ON-Setpoint	60% of sensor FSR
Light-OFF-Setpoint	115% of Light-ON-Setpoint

Status Feedback Telegram

EEP:07-11-01
DB_3 Illumination
0 … 510lx, linear n=0…255
DB_2 Illumination Set Point
Min. … Max., linear n=0…255
DB_1: Dimming Output
Level Min. … Max., linear n=0…255
DB_0.BIT_7: Repeater
0b0 disabled, 0b1 enabled
DB_0.BIT_6: Power Relay Timer
0b0 disabled 0b1 enabled
DB_0.BIT_5: Daylight Harvesting
0b0 disabled 0b1 enabled
DB_0.BIT_4: Dimming
0b0 switching load 0b1 dimming load
DB_0.BIT_3: Learn button
0b0 Teach-in telegram 0b1 Data telegram
DB_0.BIT_2: Magnet Contact
0b0 open 0b1 closed
DB_0.BIT_1: Occupancy
0b0 unoccupied 0b1 occupied
DB_0.BIT_0: Power Relay
0b0 off 0b1 on

FCC and IC Licensing

Contains FCC ID: SZV-TCM320C
The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(I.) this device may not cause harmful interference and
(ii.) this device must accept any interference received, including interference that may cause undesired operation.

Contains IC: 5713A-TCM320C

Smart Click Instructions for ERM

Configuring the ERM controller requires that at least one wireless PTM wall switch is linked to the controller. Key Card Switches are similar to the PTM265 wall switches, remove the key cards face plate to access the on and off side of the rocker switch.

Linking the first switch

⇨ With the ERM controller in the factory default state, click the PTM switch ON three times, OFF three time and ON three times quickly.

Using this method of linking a switch will only work on the first PTM switch. Use Smart Click to link additional switches or to configure the controller parameters.

Enter Smart Click Configuration Mode

⇨ It is important to have feedback from the ERM controller during configuration**.** If the ERM is controlling a duplex receptacle, plug a light into the controlled socket.

⇨ Using a linked switch (see above), turn the light OFF.

⇨ Press and hold the switch OFF for 10 seconds. The light will blink once and then turn on. If the switch is linked to more than 1 ERM controller you will have to click the ON side of the switch until the controller you wish to configure is selected indicated by the light turning ON.

⇨ Press ON and hold for 5 seconds. The light will begin blinking once.

Linking an additional switch or sensor

⇨ With the light blinking once, press and hold ON for 3 seconds. The light will begin blinking ON/OFF every second.

⇨ Add additional PTM switches by clicking ON 3 times quickly. Add sensors by pressing the TEACH button on the sensor. The light will stay lit for 4 seconds as the new device is added.

⇨ To continue with configuration, press and hold the switch ON for 3 seconds, the light will resume blinking once. To exit Smart Click press and hold OFF for 5 seconds.

Clear switches or sensors (restore factory defaults)

⇨ Enter Smart Click configuration mode.

⇨ Click the switch ON or OFF until the light is blinking twice.

⇨ Press and hold On for 3 seconds. Click the switch ON 5 times to clear just the switch. Skip the next step if that's all you want to clear.

⇨ Click ON 5 times (total 10) again to clear ALL switches and sensors and reset the ERM to factory defaults.

⇨ Press OFF for 5 seconds to complete clearing.

Repeater Function - repeats any telegram within range. The ERM can repeat telegrams with either a single or dual hop. Dual hop means that a signal can be repeated up to two times, not by the same repeater.

The repeater function can be enabled/disabled by accessing the controller buttons. Press the Clear button and hold then quickly press the Learn button once to disable, twice to enable single hop, and three times to enable dual hop repeating. The learn led will blink once when disabling, twice(single hop)or three times (dual hop) when enabling the repeater function. Release the Clear button. If there is no access to the controllers buttons, follow the Smart Click steps below.

⇨ Enter Smart Click configuration mode.

⇨ Click the switch ON or OFF until the light is blinking three times.

⇨ Press and hold On for 3 seconds. If the repeater function is enabled the light will turn ON, if disabled the light will be OFF. You can only enable single hop repeating with Smart click.

⇨ Click ON to activate this function, OFF to deactivate.

⇨ To continue with configuration, press ON for 3 seconds, the light will resume blinking three times. To exit Smart Click press OFF for 5 seconds.

Status Telegram - the ERM can broadcast a status telegram per EEP: 07-11-01. The telegram will broadcast every 100 seconds. Refer to the table on page 7 for a detailed explanation of the telegram.

The status telegram can be enabled/disabled by accessing the controller buttons. Press the Learn button and hold, press the Clear button once to disable, twice to enable. The learn led will blink once when disabling, twice when enabling this telegram. Release the Learn button. If there is no access to the controllers

buttons, follow the Smart Click steps below.

⇨ Enter Smart Click configuration mode

⇨ Click the switch ON or OFF until the light is blinking four times

⇨ Press and hold ON for 3 seconds. If the status telegram function is enabled the light will turn ON, if disabled the light will be OFF

⇨ Click ON to activate this function, OFF to deactivate

⇨ To continue with configuration, press and hold ON for 3 seconds, the light will resume blinking four times. To exit Smart Click press OFF for 5 seconds

Timeouts - the ERM can be configured to wait a period of time after an ON event from a PTM switch (timed switch or key card switch) or occupancy sensor before turning the load OFF (auto-off).

⇨ Enter Smart Click configuration mode and click the switch ON or OFF until the light is blinking five times.

⇨ Press and hold ON for 3 seconds. The light will turn OFF and then blink per the table settings below.

Light	Timed Switch	Occupancy Timer	Keycard Switch
ON	disabled	1 min.	no delay
1 Blink	5 min.	5 min.	1 min.
2 Blinks	15 min.	10 min.	2 min.
3 Blinks	30 min.	15 min.	3 min.
4 Blinks	60 min.	20 min.	4 min.
5 Blinks	n/a	25 min.	5 min.

⇨ Click ON move down the table, OFF to move up. Confirm the light is blinking according to the chosen level.

⇨ To continue with configuration, press and hold ON for 3 seconds, the light will resume blinking five times. To exit Smart Click press OFF for 5 seconds.

Auto-ON Function - use with an occupancy sensor to turn lights ON automatically when motion is detected.

⇨ Enter Smart Click configuration mode

⇨ Click the switch ON or OFF until the light is blinking six times.

⇨ Press and hold ON for 3 seconds. If the auto-on function is enabled the light will turn ON, if disabled the light will be OFF

⇨ Click ON to activate this function, OFF to deactivate

⇨ To continue with configuration, press and hold ON for 3 seconds, the light will resume blinking six times. To exit Smart Click press OFF for 5 seconds.

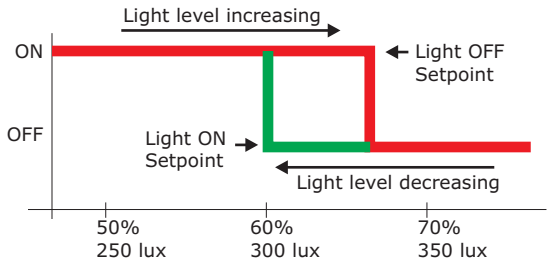
Light Level Set points - use with a photo sensor (light sensor) to automatically turn lights on or off depending on ambient light levels.

⇨ Enter Smart Click configuration mode

⇨ Click the switch ON or OFF until the light is blinking eight times.

⇨ Press and hold ON for 3 seconds. The default setting for the Light-ON-Setpoint is 60% of the light sensors full range. Adjust the light level to the brightness level when the light should trigger ON, see diagram below. There are 5 steps from 20% to 100% - the light will blink the step count.

In the diagram, the red line indicates the Light-OFF-Setpoint event, the green line indicates the Light-ON-Setpoint event. The light off event is 115% of the light on set-point. For example: 115% of 60 = 69% of the light sensors full range.



⇨ Click on to increase the set-point, off to decrease the set-point. The light will blink according to the level set, setting 3 = 3 blinks. Confirm the light is blinking according to the chosen level.

⇨ To continue with configuration, press ON for 3 seconds, the light will resume blinking eight times. To exit Smart Click press OFF for 5 seconds.

This concludes the instructions for using Smart Click to commission the ERM Load Controller.